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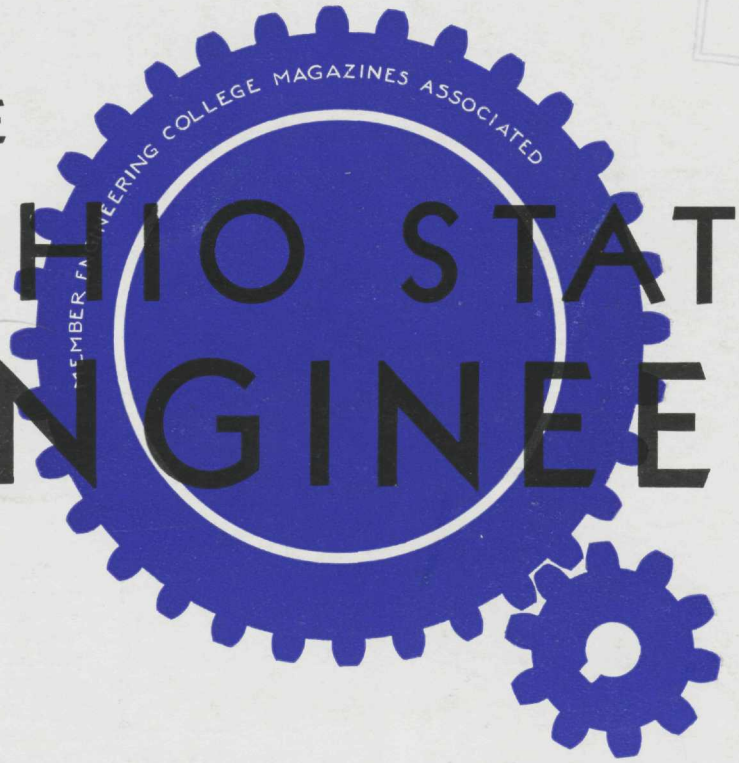

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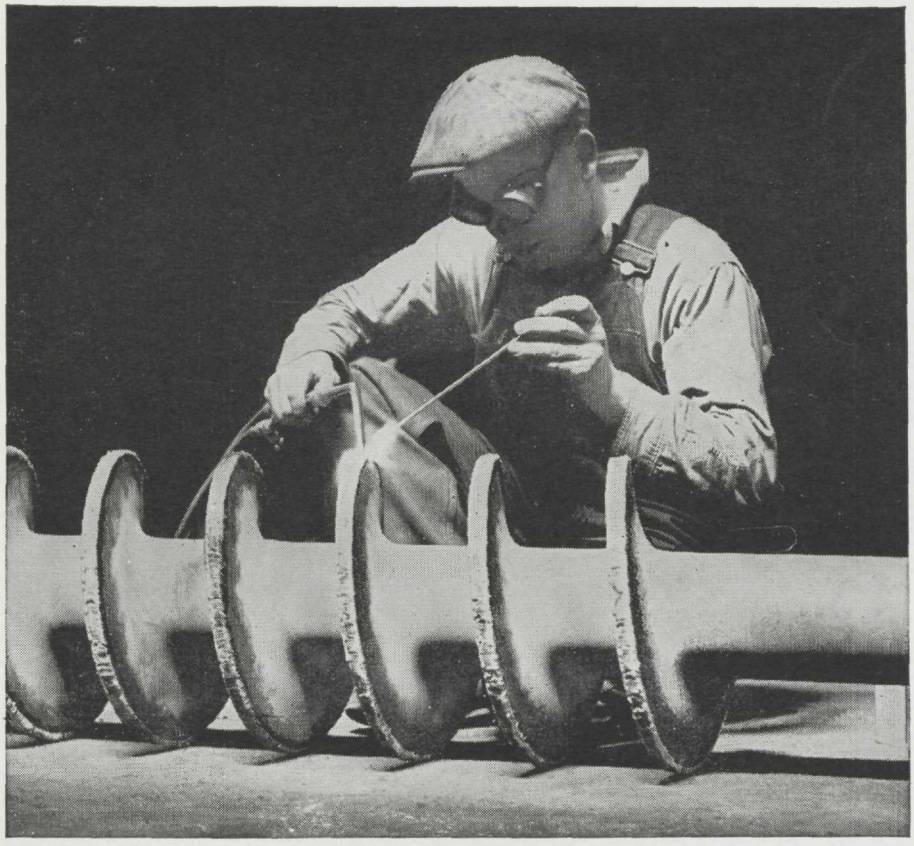

WORN SCREW-CONVEYOR flights rebuilt by bronze-welding save replacement costs.

Build up the worn down . . .

Previous habits in the metals field reversed by new welding technique

UNTIL a comparatively short time ago, when metal parts were worn below the limit of tolerance, they were discarded. Further cutting down could not make them fit the job again. This method wasted both time and money.

With the introduction of welding, this picture has been entirely changed. It is easy now to build up metal at low cost. Parts, worn too small to be useful, can be returned to original size and shape. By the oxy-acetylene welding process, new metal is put on where the old has been worn away. The original investment may thus be salvaged by a small additional investment in repair by welding.

Welding Means Low-Cost Repairs

Welding has made rapid strides in the repair and rebuilding of worn parts. In every industry where metal is used and wear occurs, welding methods are saving money. Oil-well drills can now be kept in cutting shape long after their normal life span is past. Railroad shops repair and rebuild worn parts of rolling stock and track by welding as a regular procedure. Factory tools and machinery are kept in shape through welding as one of the surest ways to low-cost, profitable operation. Contractors and engineers rely on welding to rebuild worn drill bits, picks, shafting and wearing parts on shovels and digging equipment. The list of repairs made by welding is growing rapidly.

A Friend in Need

Welding is indeed a friend in need. For example, when work is being done on time contracts, it is of vital importance that worn or damaged equipment can be repaired quickly on the job. Suspension of operations until new parts could be obtained would be fatal to speed and profit. With welding, such interruptions are prevented since machinery and equipment are kept continually in operating trim. The scrap piles are kept at a low ebb. Worn metal parts, from shovel dipper teeth to truck axles, are reclaimed by welding. It can be depended upon to give satisfactory results in repair, maintenance and fabrication.

Welding Savings

$2,000 budgeted for new saws was saved by welding. Before any money was spent, the company checked into the possibilities of welding. Saw-repair by welding was developed, and now saws with broken teeth, cracks or other damage are restored at a fraction of the cost of new saws.

* * *

Welding of the copper kettles used for boiling wax in chemical and dye manufacture has become a regular routine that saves a chemical company many hundreds of dollars. After being in service for some time, the bottoms of these kettles become very thin. As the kettles have both an inner and outer shell, it was found best to weld in two new bottoms.

* * *

Welding was used by a midwestern creamery to rebuild the teeth on a large gear. The gear was worth $600, and the rebuilding work cost less than $50. This one job alone far more than paid for all necessary welding equipment.

* * *

Welding saves thousands of dollars each year for a large western railroad. Battered rail ends, caused by constant hammering of the car wheels at the joints, are rebuilt by welding. The rail ends are welded in place without traffic interruption. This saves taking up the rails, sawing off the ends, redrilling and relaying.

* * *

Welding is used to reclaim worn and broken reamers from automobile shops. The reamers, which cost from $2.50 to $16 each, reclaimed by welding are as good as new, at an average cost of 40 cents. Breakage and loss of teeth on this type of tool are extremely high. The tooth bill in these shops has shown a healthy reduction since welding methods have been used.

* * *

In a wood-products mill, welding is used to rebuild the steel shafts in pulp grinders. These shafts, originally a foot in diameter, wear rapidly and continually at the collars holding the stone. A small amount of play makes it difficult to keep the collars drawn up tight. Under these conditions, wear happens fast. Common practice, before the advent of welding, was to change the collars and bearing four to eight times as the shaft wore down and was remachined. When the shaft was too small, about eight inches in diameter, it was discarded. Now by welding, the shaft is built up to original size as soon as it wears. Many thousands of dollars in new shafts, collars and bearings are saved annually.

* * *

Tomorrow's engineers will be expected to know how to take advantage of this modern metalworking process. Many valuable booklets describing the oxy-acetylene process are available without obligation. For further information write any Linde office.

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